

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: SAKATA, Makoto, et al.) Group Art Unit: 1781
Application No. 10/593,347)
Filed: January 10, 2008) Examiner: JYOTI CHAWLA
For: METHOD OF MODIFYING GUM)
ARABIC, MODIFIED GUM ARABIC) Confirmation No.: 8980
OBTAINED BY THE METHOD, AND USE
THEREOF

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 C.F.R. § 1.132

I, Tsuyoshi KATAYAMA, do hereby make the following declaration:

1. I am a Japanese citizen, residing at 1-1-11, Sanwa-cho, Toyonaka, Osaka, 561-8588, Japan.
2. I graduated from Okayama University, Faculty of Agriculture, Department of agricultural chemistry in 1992. I also graduated from the Graduate School of Natural Science and Technology, and received a Master's Degree in 1994.
3. I also graduated from the Graduate School of Natural Science and Technology, and received a PhD Degree in 2006.
4. I began my employment with SAN-EI GEN F. F. I., INC., the assignee of the above-identified application, on April in 1994. Since 1994, I have been engaged in the research and development of Emulsion and its emulsifier. I am in charge of research and development regarding natural emulsifier such as gum arabic.
5. I am one of the named inventors of the above-identified application, and am familiar with the subject matter of said application as well as the disclosures in the cited

references.

In order to compare the present invention and the prior art teachings, I have conducted the following experiments.

Experiments

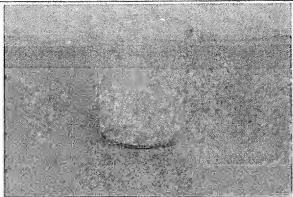
Purpose:

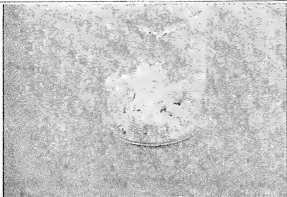
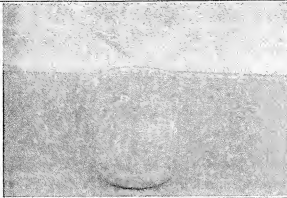

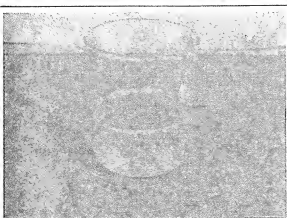
The purpose of this experiment is to evaluate aqueous solubility of gum arabic.

Method and Result:

Gum arabic (powder spray type: loss on drying = 3%) was mixed with water to prepare a composition having a specific concentration of gum arabic.

The following shows a photo of each state.

Concentration of gum arabic (Loss on drying)	Photo	Evaluation of the state
Gum arabic = 97% (Loss on drying = 3%)		Powder state

<p>Gum arabic = 70% (Loss on drying = 30%)</p>		<p>Almost in powder state, with slight caking</p>
<p>Gum arabic = 50% (Loss on drying 50%)</p>		<p>The powder was barely able to be dissolved into an aqueous solution, but only became a very sticky paste. (Maximum dissolving concentration of gum arabic)</p>
<p>Gum arabic = 30% (Loss on drying 70%)</p>		<p>Aqueous solution</p>
<p>Gum arabic = 10% (Loss on drying 90%)</p>		<p>Aqueous solution</p>

The maximum dissolving concentration of gum arabic is around 50%, and gum arabic will not be dissolved in water when the loss on drying falls to 50% or below. Therefore, gum arabic at a loss on drying of 3-30 wt% is not an aqueous solution, but rather a powder (agglomerate).

Note: the loss on drying of the gum arabic raw material (agglomerate) is 10-15%.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of any patent issued on this application.

Date: June 10, 2011

By:

Tsuyoshi Katayama
Tsuyoshi KATAYAMA